UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

JAN 1 1 2012

Mr. Kenneth Kosinski
New York State Department of Environmental Conservation
Division of Environmental Permits
625 Broadway – 4th Floor
Albany, New York 12233-3505

Re: Comments on New York State Department of Environmental Conservation Draft SPDES General Permit for Stormwater Discharges Associated with High Volume Hydraulic Fracturing Operations

Dear Mr. Kosinski,

Thank you for providing an opportunity to the U.S. Environmental Protection Agency to review the draft SPDES General Permit that was prepared by the New York State Department of Environmental Conservation for horizontal drilling and high-volume hydraulic fracturing to develop the Marcellus Shale and other low-permeability gas reservoirs.

Enclosed are our comments which we hope will assist you in drafting a proposed permit that will clearly set forth requirements and ensure the ability to adequately enforce the permit.

If you have any questions, please do not hesitate to contact me at 212-637-3797 or Stephen Venezia, the EPA Region 2 Stormwater Coordinator at (212) 637-3856 or venezia.stephen@epa.gov.

Sincerely,

Douglas Pabst, Acting Chief
Clean Water Regulatory Branch

Enclosure

cc: Mr. Koon Tang, Director, Bureau of Water Permits
New York State Department of Environmental Conservation

EPA Region 2 Comments on the NYSDEC's SPDES General Permit for Stormwater Discharges from High Volume Hydraulic Fracturing (HVHF)
December 22, 2011

Part I (General Permit Coverage and Limitations):

1. Part I (D)(5): This section states that contaminated stormwater discharges from drilling operations subject to 40 CFR Part 435 are ineligible for coverage under the general permit. The section includes a note that states, "most contaminated discharges from drilling facilities are subject to these effluent guidelines and are not eligible for coverage under this general permit." The processes ineligible for coverage under the standard include "any source associated with production, field exploration, drilling, well completion, or well treatment (i.e., produced water, drilling muds, drill cutting, and produced sand)." [See 40 CFR § 435.32]. The New York State Department of Environmental Conservation (NYSDEC) should enumerate the processes ineligible for coverage (in quotes above) in the general permit. The general permit does allow for drilling muds to be put in reserve pits. Any discharge from a reserve pit that includes drill cuttings or drilling muds must be ineligible for coverage under the permit. The NYSDEC can clarify the current language by adding, to the note in Part I(D)(5), the phrase "including any stormwater from reserve pits that contain drilling muds." The NYSDEC should prohibit drilling muds from being put into reserve pits.

2. Part I (D): The table in this section states that High Volume Hydraulic Fracturing (HVHF) operations sited within 100 feet of wetlands are ineligible for coverage. The term "Wetlands" in the table needs to be qualified as "ECL Article 24 mapped freshwater wetlands" and a footnote should be added to Part I (D) stating "Operations sited within federally regulated wetlands may require a separate permit under Section 404 of the CWA before construction begins." The EPA suggests that the permit require a larger buffer to better protect wetlands. Also, where it states twice in the table "as described in 6 NYCRR Parts 800-910," as a qualifier for perennial and intermittent streams, this qualifier is confusing and should be deleted. If one looks at the actual ECL regulations Parts 800-910, they include every perennial and intermittent stream, known or unknown. The Part 800-910 regulations are about waterbody classification and since the SPDES General Permit eligibility restrictions are not being tied here to stream classification, but rather the presence of a stream of any classification, the qualifier is confusing and unnecessary.

Part II (Obtaining General Permit Coverage):

3. Part II (A): The permit is not specific as to who is responsible for compliance with the requirements where multiple owners at a site are involved. How will the NYSDEC determine responsibility at a site where there are multiple owners for enforcement purposes? The permit should require the Stormwater Pollution Prevention Plan (SWPPP) to identify all contractors and subcontractors. The permit should also require a signed certification from any contractor or subcontractor with SWPPP responsibilities that they will comply with the permit and fulfill their SWPPP responsibilities.

4. Part II (A): The NYSDEC uses *"owner or operator"* throughout the permit. The NYSDEC should include language which clearly states that whoever submits the notice of intent (NOI) is responsible for the permit's implementation, unless otherwise specified in the Comprehensive

SWPPP. The permit should state clearly whether it is the owner or the operator who is liable in the event that a site should fail to obtain coverage under the permit.

5. Parts II (A), III (B)(2), and VII (B)(2): These sections state that documents must be maintained at a secure location, such as a job trailer, on-site construction office, or mailbox. A secure location could be understood to mean a location remote from an organization's primary place of business. A mailbox may not be on-site. Rather than use the term "secure location" the NYSDEC should indicate that the permittee must have documentation (e.g, NOI, a copy of the SWPPP, etc.) available at a central location on-site for the use of all those identified as having responsibilities under the SWPPP whenever they are on the construction site.

6. Part II (B)(3): This section indicates that where the Construction SWPPP has been prepared in conformance with New York State Standards, the general permit is effective 30 calendar days after receipt of the notice of intent and if the Construction SWPPP is not prepared in conformance with the New York State Standards, the general permit is effective 60 calendar days after receipt of the NOI. If the Construction SWPPP has not been prepared in conformance with New York State Standards, the general permit should not be effective at all. II(B)(3)(b) must be deleted. Later in the permit at III(D)(2) , the permit states, "where the planned amendments or modifications to the Construction SWPPP are not in accordance with the technical standards, the owner or operator shall have the Construction SWPPP amendments or modifications reviewed and accepted by the Department prior to commencing construction of the post-construction stormwater management practice." If the NYSDEC intends that owners or operators can request a variance from the technical standards based on equivalent measures, then the effective date in II(B)(3)(b) should only be after the NYSDEC has provided a written determination that the permittee's stormwater management practices are equivalent to the technical standards and not an arbitrary number of days after receipt of the NOI.

Part III (Development and Administration of the Construction SWPPP):

7. Part III (B)(4)(g): This section should require that the certification statement that is attached "to the copy of the Construction SWPPP that is maintained at the well site" should be signed.

Part IV (Contents of the Construction SWPPP):

8. Part IV (A)(1): The words "minimize" and "sensitive" in sub-sections (a) and (b) respectively are difficult to enforce because the words are subjective and not clearly defined in the permit. More specific language regarding these sub-sections is needed such as, "in accordance with the 2010 NYS Stormwater Design Manual."

9. Part IV (B)(1)(c), (B)(1)(d), and (B)(1)(e): These sections require the permittee to design, install, and maintain erosion and sediment controls that: "c. Minimize the amount of soil exposed during the Construction Phase; d. Minimize the disturbance of steep slopes; e. Minimize sediment discharges from the well site." More specific language than "minimize" should be used to describe how the controls must be designed, installed, and maintained; such as, "in accordance with the 2010 NYS Stormwater Design Manual."

10. Part IV (B)(1)(f) and (B)(1)(g): More specific language than "infeasible" should be used to describe the application of Best Practicable Technologies (BPTs) with regard to natural buffers and soil compaction.

11. Part IV (B)(4): The permit should require the owner/operator to identify site-specific waste management controls. Waste-generating materials and/or activities should also be identified on the site map.

12. Part IV (B)(4)(a), (B)(4)(b), and (B)(4)(c): The permit should use more specific language than "minimize" to describe the application of BPTs with regard to pollution prevention measures.

13. Part IV (B)(4): These sections contradict Part I (C)(2) (for instance Part IV (B)(4)(a) states "Minimize the discharge of pollutants from equipment and vehicle washing…" and Part I (C)(2) states that vehicle washwater discharges are ineligible for coverage). Since vehicle washwater discharges are unpermitted, the NYSDEC should change "minimize" to "eliminate". The NYSDEC should also add vehicle washwater as a prohibited discharge in Part IV (B)(4).

14. Part IV (C)(1)(b): This section states the site map requirements for the Construction SWPPP require the location(s) of the stormwater discharge(s) but do not require the Construction SWPPP to include the locations where stormwater discharges to a water of the United States or wetland (e.g., receiving water location). The EPA requires in its construction general permit (CGP) that the site map include "directions of flow," "approximate slopes anticipated after grading activities," "locations of major structural and non-structural best management practices," and "locations of off site materials." The site map should also include all receiving waters, any impaired/TMDL status of waters (including pollutants of concern), whether pollutants of concern are associated with industrial activity, all industrial activity, and potential pollutant sources. The EPA suggests that these should be included in the site map requirements section.

Part V (Construction of Well Site – Inspection, Maintenance, and Recordkeeping Requirements):

15. Part V (A)(3): The NYSDEC should be notified when soil disturbance activities have been temporarily suspended and the owner/operator shifts to a 30-day inspection schedule. The permit should also specify how this notification needs to occur (e.g., written notification).

16. Part V (B)(5): The EPA requires in its CGP that inspection reports include "weather information for the period since the last inspection (or since commencement of construction activity if the first inspection) including a best estimate of the beginning of each storm event, duration of each storm event, approximate amount of rainfall for each storm event (in inches), and whether any discharges occurred." These should be included as a requirement for the qualified inspector to include in the inspection reports.

17. Part V (B)(5)(E): This section states that the inspection report should include "A description of the condition of all natural surface waterbodies located within, or immediately adjacent to, the property boundaries of the well site which receive runoff from disturbed areas." The term "natural surface waterbodies" should be qualified as to include wetlands.

18. Part V (C)(2): To help facilitate enforcement of the requirements found in this section the permit should require documentation.

Part VIII (HVHF Operation Requirements):

19. Part VIII (A)(2): This section states that a list must be maintained of all HVHF phase fluid additives used on-site. The list must include the volumes and amounts of all chemical additives used for each HVHF stage, but may exclude any information that has been determined to be confidential business information. The general permit does not specify or reference New York State's laws regarding confidentiality of business information at 6 NYCRR 750-1.22 or give any indication of what is required for a claim of confidential business information. If specific volumes and amounts of chemical additives are determined to be confidential business information, the owner or operator should be required to maintain a non-confidential list of the chemical additives without volumes and quantities used for each HVHF stage in order for emergency response personnel to ensure the health and safety of humans and the environment in the event of a release.

Part IX (Contents of the HVHF SWPPP):

20. Part IX (A)(3): Since there will be horizontal drilling performed at extensive distances from the drill pad in HVHF, the permit should require that the map narrative identify all locations relative to aquifers and unfiltered water supplies at distances based on how far out horizontal drilling may occur from the drill pad.

21. Part IX (A)(4): Within this section the SWPPP should include information concerning potential issues regarding hydrologic connectivity to surface waters due to horizontal drilling.

22. Part IX (A)(14): The sentence starting with "the record shall include a list of the individual chemicals/additives…" should mean that confidential business claims will not excuse the permittee from providing the chemical additive information. If this is the case, please amend the language to clearly state that the chemical additive information is required.

23. Part IX (A)(16)(a): This section states that Best Management Practices (BMPs) "should" take into consideration the items at IX(A)(16)(a)(i)-(iii). The permit should require that the BMPs must take these items into consideration. The permit should be rewritten to state that "Selection of BMPs must take into consideration:" the items at IX(A)(16)(a)(i)-(iii).

24. Part IX (B)(5)(b)(i) and (B)(5)(b)(ii): For consistency with the construction portion of the permit the phrases "weekly" and "biweekly" should be changed to "every 7 calendar days" and "every 14 calendar days."

25. Part IX (B)(6): This section states that "Records of inspections required for HVHF operations shall be maintained in accordance with this general permit." The provision does not state what the records of inspections would be for the HVHF operations (for example for the Construction SWPPP, at provision V(B)(5) specifies the minimum requirements for the inspection report). The permit should specify the minimum inspection report requirements for the HVHF SWPPP similar to the inspection report requirements in the Construction SWPPP.

26. Part IX (B)(7): This section indicates that employee training "should" include topics such as spill response, good housekeeping, and material management practices. Spill response, good housekeeping, and material management are crucial elements of the HVHF SWPPP. Employees

must be familiar with spill response and good housekeeping practices as required at provision IX(B)(7)(c) of the permit. We suggest the permit be rewritten to state that the description of employee training "must include the topics to be covered, including, at a minimum, the topics listed at IX(B)(7)(c)(i) to (iii)."

27. Part IX (A)(2)(d): This section states, in "Contents of the HVHF SWPPP," that the site map must show "Locations and names of all surface water bodies within one (1) mile of the well site." The term "all surface waterbodies" needs to be qualified to include wetlands. However, since federally regulated wetlands cannot be readily verified at this scale without extensive fieldwork, a footnote should be added qualifying that it is sufficient for federal wetland purposes to show locations of wetlands as identified on National Wetland Inventory maps and/or areas of hydric soils identified on the county USDA Soil Survey, in lieu of field-verified federally regulated wetlands or as identified by the Army Corps of Engineers, the EPA, the Fish and Wildlife Service, or local governments.

28. Part IX (C)(1): This section addresses required structural BMPs and states that the "Factors for the *owner or operator* to consider when selecting appropriate structural BMPs should include:" factors listed at IX(C)(1)(a) and (b). These factors are important in selecting appropriate structural BMPs. The permit should be rewritten to state that "Factors for the *owner or operator* to consider when selecting appropriate structural BMPs must include at a minimum:" the factors listed at IX(C)(1)(a) and (b).

Part X (Activity-Specific Structural and Non-Structural BMPs and Benchmark Monitoring Requirements):

29. Part X: Where specific parameters are mentioned for monitoring, the permit specifies certain analytical methods. In one case, total dissolved solids (TDS), the method is the standard method instead of the EPA method 160.1. In the tables throughout the permit where the analytical methods are specified, the NYSDEC should specify the methods approved by 40 CFR Part 136 that yield a detection limit that will allow for water quality standard compliance to be evaluated (sufficiently sensitive method).

30. Part X: The permit should include a provision stating that for any discharge that is monitored more frequently than required by the permit, using the procedures in 40 CFR Part 136, the results of the monitoring must be provided to the NYSDEC.

31. Part X (Table – Pollutants of Concern): This table lists radium as a pollutant of concern to be monitored as "Radium (sum of all isotopes), pCi/l". The discharger may only provide the sum and not the individual isotopes. The water quality standards apply to radium 226 and 228, so the permit should specify that these isotopes need to be reported individually.

32. Part X (A)(6): The word "minimized" in this section is difficult to enforce because the word is subjective and not clearly defined in the permit. More specific language regarding this section is needed such as, "in accordance with the 2010 NYS Stormwater Design Manual."

33. Part X (B)(3)(c): To help facilitate enforcement of the requirements found in this section, the permit should require documentation.

34. Part X (D)(1)(b): The permit should be more specific about where the permittee is allowed to "divert runoff and runon."

35. Part X (G)(1)(a) and (G)(1)(b): The words "familiar," "closely," and "often" in these sections are difficult to enforce because the words are subjective and not clearly defined in the permit. More specific language regarding these sections is needed such as, "in accordance with the 2010 NYS Stormwater Design Manual."

36. Part X (H): Please explain the purpose for the NYSDEC to separate this section "chemical/fluid storage" from Part X (F), "materials and chemical storage areas." The two sections have very similar descriptions of activity, BMP requirements, and benchmark requirements.

37. Part X (M): This section, Freshwater Surface Impoundments and Reserve Pits, states all flowback wastewater must be directed to watertight holding tanks. The revised draft Supplemental General Environmental Impact Statement (SGEIS) specifies that the flowback wastewater must be directed to covered, watertight holding tanks. The general permit should be consistent with the SGEIS and require "covered" watertight holding tanks. In addition, the EPA suggests that the permit should require holding areas for mud and other sediments be covered.

38. Part X (M)(1): The general permit indicates at X(M) that "All *flowback* wastewater must be directed to watertight holding tanks." and at X(M)(1)(a) that "*Flowback* shall not be directed to *reserve pits*;" The permit should also specify that production brine shall not be directed to reserve pits (in accordance with #66 from Appendix 10 of the SGEIS). In the permit, where the term flowback or flowback wastewater is used, the permit should include "flowback wastewater and production brine." Under 40 CFR Part 435, no distinction is made between flowback wastewater and production brine.

39. Part X: The bases for benchmark values in Part X of the permit is not provided in the fact sheet and for total dissolved solids, sulfate, radium, gross alpha radiation, and gross beta radiation no benchmark value is provided and instead only reporting of results is required. New York State has applicable water quality standards at 6 NYCRR Part 700 et seq. that include standards for total dissolved solids, sulfate, radium-226, radium-228, gross alpha radiation, and gross beta radiation. The benchmark concentrations in Part X of the general permit should be set at the state water quality standards to ensure that water quality standards are not exceeded for all parameters that have water quality standards in 6 NYCRR Part 703 and aquatic life standards and guidance values from 6 NYCRR Part 702. At a minimum, the NYSDEC must ensure that the benchmark concentrations are set so that the discharge does not cause or contribute to a water quality which is exceeded.

40. Part X (B)(4), (F)(4), (G)(4), (H)(4), (J)(3), and (M)(3): Benchmark Monitoring Requirements for Areas where Well Drilling and High Volume Hydraulic Fracturing at X(B)(4), Benchmark Monitoring Requirements for Material and Chemical Storage Areas at X(F)(4), Benchmark Monitoring Requirements for Chemical Mixing, Material Handling, Loading/Unloading Areas X(G)(4), Benchmark Monitoring Requirements for Chemical Storage Areas X(H)(4), Benchmark Monitoring Requirements for Areas where Piping and Conveyances are Located X(J)(3), and Benchmark Monitoring Requirements for Areas in which Flowback Water Storage and Reserve Pits are Located at X(M)(3) should include chronic and/or acute toxicity testing since a mixture of individual chemicals may be found in these areas that may have synergistic

effects not apparent from individual parameter measurements. The EPA recommends that a discharger conduct chronic toxicity testing if the dilution of the effluent falls below 100:1 at the edge of the mixing zone. The EPA recommends that a discharger conduct either acute or chronic toxicity testing if the dilution of the effluent falls between 100:1 and 1,000:1 at the edge of the mixing zone.

Part XII (HVHF Phase Monitoring):

41. Part XII (A)(1)(a) and (A)(2)(a): In this section the owner/operator must conduct visual and quarterly inspections of outfalls. These sections could be interpreted to mean on-site outfalls only. Also, it is possible that stormwater discharges to MS4s, entries to storm sewers, or at MS4 outfalls might not be inspected. The permit should be clarified to explain exactly what "each outfall" requires.

42. Part XII (A)(3)(c): This section states that samples must be received by the laboratory in a timely manner, so that samples may be analyzed within the holding time, but no later than ten (10) calendar days after the samples have been collected. For some parameters, e.g., total suspended solids, the holding time is less than ten calendar days. The permit provision must be rewritten to reflect that holding times may be less than the ten days. For instance, it may be rewritten as, "Samples must be received by the laboratory in a timely manner, so that samples may be analyzed within the holding time. For parameters with holding times greater than ten (10) days, samples must be analyzed no later than ten (10) calendar days after the samples have been collected."

43. Part XII (A)(3)(c): The term "qualifying storm" should include a reference to where the phrase is defined or should be defined in Appendix A.

Part XIII (HVHF Phase Reporting):

44. Part XIII (A)(1) and Part XVI (A)(1): The EPA is concerned that the NYSDEC will not be able to ensure all the applicable DMR forms are provided to each project given the activity-specific benchmark requirements outlined in Part X of the Permit. How does the NYSDEC expect to accomplish this?

Part XV (Production Phase Inspection and Maintenance):

45. Part XV: For clarity, the EPA recommends moving Part XV before Part XIV, so that the inspection and maintenance requirements for the production phase precede the monitoring requirements for the production phase (same pattern as Parts XI and XII, which relate to the HVHF phase).

Appendix A (Definitions and Acronyms):

46. Appendix A: The General Environmental Impact Statement from 1992 (GEIS) describes use of up to 80,000 gallons of water for a typical hydraulic fracturing operation. Appendix A defines High-Volume Hydraulic Fracturing as hydraulic fracturing using greater than 300,000 gallons of water cumulatively in the HVHF phase. In order to be consistent with the GEIS, HVHF must be defined as using greater than 80,000 gallons of water in the HVHF phase. Increasingly, gas

extraction activities are recycling water. The definition should specify whether or not the water usage is fresh water or includes water recycled on-site.

47. Appendix A: "Floodplain" is defined as the 100-year floodplain as defined by the Federal Emergency Management Agency (FEMA). The Department has a burgeoning Floodplain Mapping Program. Under a Cooperative Technical Partnership with FEMA, the Department has begun conducting new Flood Insurance Studies for the State of New York. The program employs cutting edge geographic information technology to produce some of the most accurate, advanced floodplain maps in the nation. Where the State of New York has developed more advanced floodplain maps, these should be employed. Also, any local community floodplain requirements that are more restrictive than state requirements must be considered.

48. Appendix A: There appears to be a typographical error in the definition of "product." It defines "Product" as "a material a hydraulic fracturing fluid that is manufactured using precise amounts of specific chemical constituents and is assigned a commercial name under which the material is sold or utilized." It is not clear what the meaning is or its usage.

49. Appendix A: "Normally occurring radioactive materials" (NORM) are defined as the radioactivity that can exist naturally in native materials. The term is not used in the document except in the definition of production brine that is also found in Appendix A.

50. Appendix A: The following definition should be added: Wetlands – means areas regulated pursuant to Article 24 of the Environmental Conservation Law; and federally regulated wetlands, which are further defined as areas included under the definition of "waters of the United States" at 33 CFR §328.3(b), which defines the term "wetlands" to mean "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions," and which are "navigable waters" as defined by Section 502(7) of the CWA, 33 U.S.C. §1362(7).

January 11, 2012

Proposed HVHF Comments
New York State Department of Environmental Conservation
625 Broadway
Albany, NY 12233-6510

Dear Sir or Madam:

Thank you for providing an opportunity for the U.S. Environmental Protection Agency (EPA) to review the proposed updates to the New York State Department of Environmental Conservation's (NYSDEC) oil and gas regulations including new requirements concerning high-volume hydraulic fracturing operations. We very much appreciate the NYSDEC's efforts on this regulatory action. Attached please find EPA's public comments. If you have any questions, please do not hesitate to contact me at (212) 637-5000 or Enck.Judith@epa.gov.

Sincerely,

Judith A. Enck
Regional Administrator

Enclosure
EPA Comments on Proposed Revisions to the Official Compilation of Codes, Rules and Regulations of the State of New York Regarding Oil and Natural Gas Extraction and Production Activities
January 11, 2012

6 NYCRR Parts 52 and 190 – Use of State Lands Administered by the Division of Fish, Wildlife and Marine Resources and Use of State Lands

The proposed revisions to Parts 52.3 and 190.8 prohibit surface disturbance associated with the drilling of natural gas wells where high-volume hydraulic fracturing is planned. As the drilling of all oil and gas wells involve surface disturbance to some extent in the construction of access roads, well pads, and other associated facilities with the corresponding adverse impact on forest habitats and public recreational use (see pages 6-90 through 6-91 of the revised dSGEIS), all natural gas wells should be covered by this restriction.

6 NYCRR Part 550 - Promulgation and Enforcement of Rules and Regulations

Part 550.5 Access to Properties and Records

Part 550.5(a) should be revised to include compliance with permit provisions as a reason for making investigations or tests.

6 NYCRR Part 551 – Reports and Financial Security

Part 551.4 Financial Security: Generally

Part 551.4(a) should be revised to state that an owner of an oil and gas well must file financial security documentation with the NYSDEC as part of the well permit application and that no surface disturbance for a new well pad or well drilling for an existing pad can occur until such financial security is in place and deemed acceptable by the NYSDEC.

6 NYCRR Part 552 – Permits to Drill, Deepen, Plug Back or Convert Wells

Note: The EPA recommends that the NYSDEC clarify that additional requirements may apply for permits to drill, deepen, plug back or covert wells that involve high-volume hydraulic fracturing operations in accordance with Part 560.

Part 552.1 Application and Fee

The proposed revisions to Part 552.1(b) require the application for a permit to drill a well be accompanied by a plat that shows the "distance in feet from the well to the nearest plugged and abandoned well subject to Part 552 (if same is within one mile) and the distance in feet from the well to the nearest producing well (if same is within one mile). For directional/horizontal wells, the EPA suggests that the NYSDEC clarify what is meant by "distance in feet from the well (i.e., from the surface location of the well, the minimum distance from any portion of the well, etc.).

Also, in some more densely drilled areas of the state, there may be one or more plugged and abandoned and/or producing wells that are shallower and will not be affected by the drilling and hydraulic fracturing of a new shale production well. However, there may also be deeper wells nearby (but not the closest well) that, if improperly completed or plugged, may serve as a conduit for hydraulic fracturing fluids. By only requiring the distance to the nearest plugged and abandoned and producing wells, regardless of depth, the permit applicant is not required to provide information on any nearby deeper wells. Therefore, the EPA recommends that Part 552.1(b) be amended to require the distances to the nearest wells as currently worded, but add a requirement to provide distances to the nearest plugged/producing wells completed in the same producing horizon as the planned well is targeting.

Furthermore, Part 552.1(b) further states in the fifth sentence that "if the distance between the well and the nearest well completed in the objective pool is such that there is a possibility of violation of the spacing requirements of Parts 553.1 or 553.3, the distance between the well and the nearest well completed in the objective pool shall be measured accurately on the ground." This statement is confusing since the proposed revisions to this section eliminated the requirement to show on the plat the distance in feet from the well to the nearest well completed in the same objective pool.

In addition, according to Part 552.1(c) the permit to drill will expire if the operations covered by the permit "have not commenced and been *pursued in a diligent manner* within two calendar years from the date of issuance of the permit (emphasis added)." Define what is meant by the term "pursued in a diligent manner" or replace the term with a more definitive measure such as the well must be drilled to its permitted objective or well must be drilled and either completed or plugged and abandoned, or some other definitive performance standard.

6 NYCRR Part 554 – Drilling Practices and Reports

Part 554.1 – Prevention of Pollution and Migration

Revise Part 554.1(c)(1) to state that contingency plans must be submitted to the NYSDEC for the disposal of wastewater if the primary method of fluid disposal is a publicly-owned treatment works (POTW) to be consistent with Section 1.7.9 of the revised dSGEIS.

Part 554.1(c)(2) and (3) details the requirements for the proper onsite storage of brine, salt water and other polluting fluids. These regulations include the option of storing such fluids in an earthen pit which is underlain by soil such as heavy clay or hardpan without a liner. Chapter 7 of the revised dSGEIS notes that the NYSDEC has typically been requiring that all such pits be lined with plastic. In addition, Section 5.16.15 of the revised dSGEIS notes that the NYSDEC has prohibited the collection and storage of production brine in onsite pits since 1984. Modify Part 554.1(c)(2) and (3) to prohibit the on-site storage of brine and salt water and to require that all drilling mud reserve pits be lined to reflect current NYSDEC on-site fluid storage requirements.

Part 554.4 – Rotary Tool Drilling Practices

Part 554.4(c) seems to allow operators to not use blowout equipment in areas where subsurface formations and pressures have been reasonably well established by prior drilling practice if it is in accordance with established local practice. Yet Section 5.2.1 of the revised dSGEIS states that Part 554.4 requires blowout equipment to be

maintained and in proper working order during operations with no such caveat mentioned. Part 554.4(c) should state that blowout equipment is always required.

6 NYCRR Part 555 – Plugging and Abandonment

Part 555.5 Plugging Methods, Procedures and Reports

Many of the older wells, particularly enhanced recovery injection wells, are constructed with tubing on a packer with cement on the packer. The requirements under Part 555.5(a)(1) ignore the plugging requirements for such wells, i.e. set cement plug in the bottom of the tubing, shoot off the tubing and set cement plug across the tubing stub.

EPA has the following comments in regards to Part 555.5(a)(2) which states *"For any casing left in the ground, a cement plug of at least 100 feet in length shall be placed 50 feet inside and 50 feet outside of the casing shoe. Uncemented casing must be pulled as deep as practical with a 50-foot plug placed in and above the stub of the casing. If the uncemented casing is unable to be pulled the casing must be ripped or perforated 50 feet below the shoe of the next outer casing and a 100-foot plug placed across that shoe. A 50-foot plug shall be placed at the surface."*

- Separate the requirements under Part 555.5(a)(2) pertaining to cemented casing, uncemented casing that is removed, uncemented casing that cannot be removed and requirements pertaining to all wells, e.g. surface plugs.
- It is unclear what is meant by *"50 feet inside and 50 feet outside of the casing shoe."* First, does this mean that there must be a 50-foot plug placed inside the casing with the bottom at the shoe, and a 50-foot plug placed between that casing and the next largest casing string or the wellbore with the bottom of the plug at the depth of the casing shoe or does this mean that a 100-foot plug must be placed across the casing shoe, extending from a point 50 feet below the casing shoe to 50 feet above? Second, this requirement appears to pertain to the production/long string casing that is typically set at the bottom of the well. Thus, setting a plug 50 feet below the casing seat may not be possible. Third, it also appears to pertain to casing that is cemented in the well, further confusing the requirement to place cement "outside" the casing shoe.
- The second sentence of Part 555.5(a)(2), should be modified to specify the minimum thickness of the plug that must extend above the stub.
- The third sentence of Part 555.5(a)(2) is unclear. Does this sentence mean that the 100-foot plug is to be squeezed out of the ripped/perforated casing such that the 100-foot plug is outside the casing that was not pulled, or if the 100-foot plug must be inside the perforated/ripped casing with an unknown amount having gone out of the perforated/ripped section? If the 100-foot plug is to be placed outside the casing that was not pulled, how does the operator verify that a 100-foot plug was actually placed, i.e. that cement was not lost into the formation?
- Move the last sentence of Part 555.5(a)(2) to a new paragraph as this paragraph (a)(2) appears to specify requirements only for wells where casing is to be left. The surface plug must be placed in all wells. Putting the surface plug requirement in this paragraph is confusing as the subsequent paragraphs discuss plugs to be placed deeper in the well and before the surface plug. To the extent possible, the plugging regulations should list the required plug placements sequentially from total depth to the surface, as is indicated in the opening sentence of Part 555.5(a).

Part 555.5(a)(3) states *"If casing extending below the deepest potable fresh water level shall not remain in the ground, a cement plug of at least 50 feet in length shall be placed in the open hole at a position approximately 50 feet below the deepest potable fresh water level."* This requirement is unclear since in deep wells there will be several strings of casing that extend "below the deepest potable fresh water level."

EPA has the following comments in regards to Part 555.5(a)(4) which states that *"If the conductor casing or surface casing is drawn, a cement plug of at least 50 feet in length shall be placed immediately below the point where the lower end of the conductor or surface casing shall previously have rested. The hole thereabove shall be filled with cement, sand or rock sediment or other suitable material in such a manner as well prevent erosion of the well bore area and not interfere with normal soil cultivation."*

- Define the term "drawn" in the regulations.
- At the end of the first sentence in the paragraph add in parenthesis "(i.e. the casing seat)."
- It is unclear whether the top or bottom of the plug shall be placed "immediately below the point where the lower end of the conduct or surface casing shall previously have rested."
- It should be noted that conductor pipe often does not extend to 50 feet in depth.
- There is a typo in the last sentence of the paragraph. The NYSDEC should replace "well" in the last sentence with "will."

Part 555.5(a)(5) states *"The interval between all plugs mentioned in paragraphs (1) through (4) of this subdivision shall be filled with gelled fluid with a minimum density equal to 8.65 pounds per gallon with a 10 minute gel-shear strength of 15.3 to 23.5 pounds per hundred square feet or other department approved fluid."* It appears the requirement in Paragraph 4 to use cement, sand or rock sediment above the surface casing seat plug and/or conductor seat plug and below the surface plug conflicts with the requirement in Paragraph 5 to use gelled fluid between plugs. In addition, there has been concern expressed with using gel in the depth interval of aquifers, particularly in cases where the surface casing has been removed or lacks integrity. The State of Pennsylvania specifically prohibits the use of gel as a plugging material in this depth interval due to occasional problems with gel impacting local water wells. The NYSDEC may want to consider a similar prohibition.

Part 555.5(c) appears to allow for abandoned well sites to go unrestored as long as the landowner signs a release and no hazard is present. In determining whether or not "no hazard" exists, does the NYSDEC take into account adverse impacts to the environment or is it public safety concerns? Either way, EPA recommends removing this waiver and requiring full site restoration after a well is plugged as specified on page 5-144 of the revised dSGEIS.

6 NYCRR Part 556 – Operating Practices

Part 556.2 Gas Wells

Part 556.2(b) appears to grant the operator of a natural gas well the option of flaring or just releasing the methane produced during the cleanup period or testing of the well. Yet the new proposed Part 560 for high-volume hydraulic fracturing wells specifies that high-volume hydraulic fracturing wells must run the natural gas through a flare and be ignited whenever possible and a reduced emissions completion be required whenever a sales line is available. Revise Part 556.2(b) to apply such requirement to all wells and not just the wells subject to Part 560.

6 NYCRR Part 560 – Operations Associated with High-Volume Hydraulic Fracturing

General

The revised dSGEIS proposes mitigation measures concerning high-volume hydraulic fracturing operations that are not addressed in these regulations (e.g. limiting emissions from diesel engines, the greenhouse gas mitigation plan). EPA Region 2 recommends that the NYSDEC include all applicable mitigation measures in the regulations to improve their enforceability as well as provide one clear document in English to which the regulated community, the regulators, and the public can refer to determine applicable requirements.

Part 560.2 Definitions

The 1992 GEIS describes use of up to 80,000 gallons of water for a typical hydraulic fracturing operation. Part 560.2(b)(8) the proposed rule defines high-volume hydraulic fracturing as the stimulation of a well using 300,000 gallons or more of water as the primary carrier fluid in the hydraulic fracturing fluid. In order to be consistent with the GEIS, high-volume hydraulic fracturing must be defined as the stimulation of a well using greater than 80,000 gallons of water as the primary carrier fluid in the hydraulic fracturing fluid.

The definition of wetlands at Part 560.2(b)(26),should be revised to read: Any area regulated pursuant to Article 24 of the Environmental Conservation Law; *and federally regulated wetlands, which are further defined as areas included under the definition of "waters of the United States" at 33 CFR §328.3(b), which defines the term "wetlands" to mean "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions," and which are "navigable waters" as defined by Section 502(7) of the Clean Water Act, 33 U.S.C. §1362(7).*

Part 560.4 Setbacks

Revise Part 560.4(a) to include the prohibition against high-volume hydraulic fracturing operations within 4,000 feet of the New York City and Syracuse Watersheds as recommended by Section 3.2.4 of the revised dSGEIS.

The section should also be modified to include the requirement under Section 3.2.5 of the revised dSGEIS that site-specific environmental assessments and State Environmental Quality Review Act determinations of Significance are required for the following high-volume hydraulic fracturing projects:

1. Any proposed well pad within 500 feet of a principal aquifer;
2. Any proposed well pad within 150 feet of a perennial/ intermittent stream, storm drain, lake, or pond; and
3. Any proposed well location within 1,000 feet of the New York City Department of Environmental Protection's subsurface water supply infrastructure.

In addition, EPA recommends that the NYSDEC include in this section a requirement concerning not allowing well pads sites on steep slopes.

Part 560.5 Testing, Recordkeeping and Reporting Requirements

EPA suggests that the NYSDEC consistently require that private water well test results be submitted to the NYSDEC. The NYSDEC should consider establishing a groundwater baseline database and follow-up with the entry of post-initial sample results. Also, in accordance with Page 7-45 of the revised dSGEIS, revise Part 560.5(d)(1) to clarify that initial sampling and analysis of residential water wells must occur prior to site disturbance at the first well on the pad and then prior to drilling commencement at additional wells on multi-well pads. Similarly, Part 560.5(d)(3) should provide more details in regards to the required sampling intervals as proposed in the revised dSGEIS.

Also, Part 560.5(d) should specify in accordance with Page 7-47 of the revised dSGEIS that the water samples be collected by a qualified professional and analyzed utilizing a laboratory approved by the New York State Department of Health's Environmental Laboratory Approval Program, including the use of proper sampling and laboratory protocol, in addition to the use of proper sample containers, preservation methods, holding times, chain of custody, analytical methods, and laboratory quality assurance/quality control.

In accordance with Paragraph 54 of Appendix 10 of the revised dSGEIS, Part 560.5(g) should be modified to include not only the intended destination of any fluid or other waste material moved off site by pipeline but its intended disposition and use at that destination or receiving facility.

Part 560.6 Well Construction and Operation

Revise Part 560.6(a)(4) to include the proposed requirement specified on Page 7-37 of the revised dSGEIS that pit liners must be constructed, coated, or lined with materials that are chemically compatible with the substance(s) stored and the environment as well as the requirement for freeboard monitoring.

Part 560.6(b)(1)(ii) appears to allow fueling tanks within 500 feet of a perennial or intermittent stream, storm drain, wetland, lake or pond if longer distances are not considered "practical" by the operator. This is inconsistent with the recommendation to completely prohibit such siting of fueling tanks in Section 7.1.3.1 of the revised dSGEIS and thus, the language in Part 560.6(b)(1)(ii) should be changed to not allow fueling tanks under any circumstances within 500 feet of any perennial or intermittent stream, storm drain, wetland, lake or pond.

Part 560.6(c)(15) states that remedial cementing will be required if the cement bond is not adequate for drilling ahead. Part 560.3(a)(16)(iii-iv) indicates that any casing and casing seat integrity testing plans must be submitted as part of the permit application. It is unclear if these tests are required but, in any case, if such tests are run, the results of those tests should also be considered when determining if remedial cementing of any casing string is necessary.

Part 560.6(c)(16) specifies that if intermediate casing is installed, the production casing cement must be tied into the intermediate casing string with at least 300 feet of cement measured using True Vertical Depth. This requirement is unclear as it could be interpreted to mean: (1) The production casing must have a minimum 300 feet of cement above the casing shoe and must tie into the intermediate string of casing by an unspecified amount, e.g. 10 feet; or (2) The cement outside the production casing must extend a minimum of 300 feet above the casing seat for the intermediate string of casing. Thus, it is recommended that the NYSDEC clarify the language.

Clarify in Part 560.6(c) whether or not pressure testing of the casing and casing seat integrity tests as referenced in the permit application requirements in Part 560.3 are required.

In regards to Part 560.6(c)(21), if hydraulic fracturing operations are occurring down tubing set on a packer, the tubing/casing annulus should be pressure tested to ensure that the packer has a good set that can withstand hydraulic fracturing pressures, the tubing is sound and that the production casing is sound and can withstand hydraulic fracturing pressures in the event a tubing or packer failure occurs during hydraulic fracturing operations.

Part 560.6(c)(28) should be modified to state that the flare stack must be at least 30 feet in height unless the absence of hydrogen sulfide has been demonstrated at a previous well pad *which was completed in the same producing horizon (emphasis added).* In some parts of New York State the Marcellus and Utica formations are both potential targets so one well pad may be home to wells completed in the Utica and the Marcellus.

Part 560.7 Waste Management and Reclamation

A sentence should be added to Part 560.7(e), clarifying that no waiver of these reclamation requirements shall be granted when such well pad or access road was constructed in wetlands.

6 NYCRR Parts 750.1 and 750.3 – Obtaining a SPDES Permit and High-Volume Hydraulic Fracturing (HVHF)

Part 750-1.2 Definitions

Add the following definition for wetlands under 750-1.2(a)(99): *Wetlands means any area regulated pursuant to Article 24 of the Environmental Conservation Law; and federally regulated wetlands, which are further defined as areas included under the definition of "waters of the United States" at 33 CFR §328.3(b), which defines the term "wetlands" to mean "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions", and which are "navigable waters" as defined by Section 502(7) of the Clean Water Act, 33 U.S.C. §1362(7).*

[Please note the definition for Whole Effluent Toxicity, presently at §750-1.2(a)(99), should be renumbered as §750-1.2(a)(100).]

750-1.7 Individual SPDES Permit Application Requirements

Revise Part 750-1.7(a)(11) to specifically clarify that wetlands are included in the definition of surface water bodies for the purposes of creating a topographic map. It should be revised as follows: "A topographic map on a scale of approximately one inch equals 2000 feet (or other map if a topographic map is unavailable) extending one mile beyond the property boundaries of the source, depicting the facility and each of its intake and discharge structures; each of its hazardous waste treatment storage and disposal facilities; the portion of the mapped area on Indian Lands; and ~~those~~ *all* wells, springs, ~~other~~ surface water bodies *(including wetlands)*, and drinking water wells listed in public records, *depicted on publicly-available resource maps,* or otherwise known to the applicant in the map area."

Also, at §750-1.7(a), an additional requirement for an individual State Pollutant Discharge Elimination System (SPDES) permit application should be added, requiring submittal of: "A map of on-site and adjacent off-site surface water(s), wetlands and drainage patterns that could be affected by the discharge."

750-3.2 Definitions

Part 750.3.2(6) defines BUD as a Beneficial Use Determination issued by the NYSDEC's Division of Materials Management in accordance with 360-1.15. The NYSDEC's Division of Water is responsible for ensuring that process water from shale gas extraction, including production brine, are not permitted to run off into streams, creeks, lakes and other bodies of water. As such, the NYSDEC's Division of Water would be the more appropriate entity to evaluate whether or not wastewater associated with hydraulic fracturing can be used in road-spreading projects. However, EPA recommends against the use of Beneficial Use Determinations for road-spreading projects and similar applications.

Part 750-3.3 Prohibited Activities and Discharges

Part 750-3.3 indicates discharges that are prohibited and for which a State Pollutant Discharge Elimination System permit cannot be issued. The federal effluent guidelines at 40 CFR § 435.32 establish best practicable control technology currently available (BPT) requirements: "There shall be no discharge of waste water pollutants into navigable waters from any source associated with production, field exploration, drilling, well completion or well treatment (i.e., produced water, drilling muds, drill cuttings, and produced sand)." The prohibition of any discharge of wastewater pollutants into navigable waters from any source associated with production, field exploration, drilling, well completion or well treatment (i.e., produced water, drilling muds, drill cuttings, and produced sand) should be included in the prohibitions at 750-3.3.

Part 750-3.4 Requirement to obtain a permit

Part 750.3-4(b)(3) states that applications for high-volume hydraulic fracturing must include a certification that high-volume hydraulic fracturing flowback fluids will not be directed or stored in a pit or impoundment. The proposed rule does not define pit or impoundment, but does define "reserve pit." The proposed rule also does not include production brine whereas throughout the regulation, flowback water and production brine are referenced together. Part 750.3-4(b)(3) should be reworded as "Certification that high-volume hydraulic fracturing flowback fluids and production brine will not be directed to or stored in a pit, impoundment or reserve pit."

Part 750-3.11 Application of Standards, Limitations and Other Requirements

Part 750.3-11(i) requires that flowback water recovered after high-volume hydraulic fracturing operations as well as production brine be tested for naturally-occurring radioactive materials (NORM) which is defined under Part 750-3.2(32) as the radioactivity that can exist naturally in native materials. Part 750.3-11(i) should specify the substances that testing must be completed for. For instance, since water quality standards exist for radium 226, radium 228, gross alpha radiation, and gross beta radiation, Part 750.3-11(i) must specify that at a minimum, radium 226, radium 228, gross alpha radiation and gross beta radiation be tested using approved test methods for wastewater (~~e.g~~e.g., those found at 40 CFR Part 136).

Moreover, Part 750.3-11(i) should not distinguish between flowback water and production brine since, for the purposes of federal direct discharge requirements, the two sources are regulated the same. For wastewater

testing, analytical methods and sampling protocols must conform to State Pollutant Discharge Elimination System testing requirements. The section should be rewritten as:

> *Flowback water and production brine is prohibited from being directed to or stored in any pit, pond or impoundment. Covered watertight steel tanks or covered watertight tanks constructed of another material approved by the Department are required for flowback and production brine handling and containment on the well pad. Flowback and production brine water tanks, piping and conveyances, including valves, must be of sufficient pressure rating and be maintained in a leak-free condition. Flowback water and production brine recovered after high-volume hydraulic fracturing operations must be tested for NORM (including, at a minimum, radium 226, radium 228, gross alpha radiation and gross beta radiation) prior to removal from the site. The ground adjacent to the flowback water and production brine tanks must be measured for radioactivity. All testing must be in accordance with protocols satisfactory to the New York State Department of Health and the New York State Department of Environmental Conservation.*

Part 750-3.11(k) states that flowback water and production brine shall not be discharged on the ground surface. The provision should also include surface water. For instance, it should read, "(k) Flowback water and production brine shall not be discharged on the ground surface or to surface water."

Part 750-3.12 Disposal of HVHF Flowback and Production Water

Part 750-3.12(d)(1)(vi) states the headworks analysis must demonstrate, among other things, that the publicly-owned treatment works (POTW) is capable of removing the contaminants expected to be present in the flowback water and production brine, including but not limited to total dissolved solids (TDS), naturally-occurring radioactive materials (NORM), barium, bromides, benzene, toluene, ethylbenzene, xylene and chemicals present in the additives used in the development of the wells. Chlorides should be added to the list of parameters that must be included since chlorides are usually present in high concentrations in hydraulic fracturing wastewater and can interfere with biological wastewater treatment. The naturally-occurring radioactive materials parameters of radium 226, radium 228, gross alpha radiation, and gross beta radiation should be specified throughout the rule rather than the general term "NORM" so that the correct monitoring and analysis is performed.

Part 750-3.12(d)(1)(vi)(c)(3) indicates that each discharge of flowback water and production brine to the headworks of the publicly-owned treatment works shall include an assay of the concentrations of high-volume hydraulic fracturing chemicals present including total dissolved solids, naturally-occurring radioactive materials (NORM), benzene, toluene, ethylbenzene, and xylene. The provision should state that the concentrations must be performed using the approved methods in 40 CFR Part 136 and specify that at a minimum naturally-occurring radioactive materials parameters of radium 226, radium 228, gross alpha radiation, and gross beta radiation be included in the analysis.

Part 750-3.12(d)(4)(i) Revise to replace "Type II" disposal wells with "Class II" disposal wells.

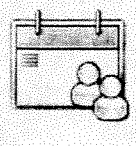
Part 750-3.12(d)(5)(iv) Revise to replace "Sections 1423 and 1425" with "Section 1421."

Part 750-3.12(d)(6) states that production brine may be disposed in accordance with the terms and conditions of a NYSDEC-approved Beneficial Use Determination. Under 40 CFR § 435.32, wastewater from onshore oil and gas

extraction, including production brine, cannot be discharged into navigable waters. The NYSDEC should not issue Beneficial Use Determinations for road spreading and similar applications.

Part 750-3.21 HVHF SPDES General Permits

At §750-3.21(f)(4), the term "Wetland" in the table needs to be qualified as "ECL Article 24 mapped freshwater wetlands."



RA/DRA and staff meeting wtih Steve Russo, Eugene Leff and Jim Tierney, NYSDEC re: Hyrdrofracking

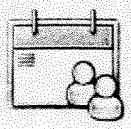
Calendar Entry

Thu 11/10/2011 3:00 PM - 3:45 PM

Chair: **Judith Enck/R2/USEPA/US**
Sent By: **Beth Soltani/R2/USEPA/US**
Location: 290 Broadway (between Duane and Reade Streets) Room 27B

Required:	Charles Hillenbrand/R2/USEPA/US@EPA, ejleff@gw.dec.state.ny.us, Eric Schaaf/R2/USEPA/US@EPA, George Pavlou/R2/USEPA/US@EPA, jmtierne@gw.dec.state.ny.us, Justine Modigliani/R2/USEPA/US@EPA, Kathleen
Optional:	plevin.lisa@epa.gov, saricci@gw.dec.state.ny.us, slteal@gw.dec.state.ny.us
FYI:	beck.nancy@epa.gov, Beth Soltani/R2/USEPA/US@EPA

Description



R.A. to have call with Jim Tierney, NYS DEC re: water related hydrofracking issues. R.A. to place call to 518-402-2794.
Calendar Entry

Tue 12/13/2011 3:30 PM - 4:00 PM

Chair: **Judith Enck/R2/USEPA/US**
Sent By: **Beth Soltani/R2/USEPA/US**
Location: **R.A.'s office**

Required:	**jmtierne@gw.dec.state.ny.us, Kathleen Malone/R2/USEPA/US@EPA**
FYI:	**Lisa Plevin/R2/USEPA/US@EPA, Nancy Beck/R2/USEPA/US@EPA, slteal@gw.dec.state.ny.us**

Description

how many oil + gas wells does EPA plug each year?

U.S. ENVIRONMENTAL PROTECTION AGENCY
POLLUTION/SITUATION REPORT
Norton Oil Well Site - Removal Polrep
Final Removal Polrep

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region II

Subject: **POLREP #2**
Plugging of abandoned/orphaned oil wells
Norton Oil Well Site
Z2B3
Bolivar, NY
Latitude: 42.0716800 Longitude: -78.0995200

To:
Jeff Bechtel, US EPA
Michael Basile, USEPA, Region 2 PAD-POB
USCG-NPFC Case Management Teams IV & II, USCG
Carl Cole, Applied Control Engineering
Jack Dahl, NYSDEC
James Daloia, USEPA, Region 2, ERRD-RPB
Judith Enck, US EPA
Beckett Grealish, USEPA Region 2, ERRD, RAB
Tim Grier, USEPA Headquarters 5202G
John Hahn, USCG NPFC
Brian Jandrew, NYSDEC
Dan Kowalski, Kemron
General Mailbox, US DOI
Chris Miller, NYSDEC
Eric Mosher, USEPA , Region 2, ERRD-RPB
Lisa Plevin, US EPA
Greg Sutton, NYSDEC
Elias Rodriguez, USEPA Region 02, PAD

From: Jeff M. Bechtel, On Scene Coordinator
Date: 6/29/2012
Reporting Period: May 29 - June 29, 2012

1. Introduction

1.1 Background

Site Number:	Z2B3	**Contract Number:**	EP-S2-10-01
D.O. Number:	0049	**Action Memo Date:**	
Response Authority:	OPA	**Response Type:**	Time-Critical
Response Lead:	EPA	**Incident Category:**	Removal Action
NPL Status:	Non NPL	**Operable Unit:**	
Mobilization Date:	6/12/2012	**Start Date:**	4/20/2012
Demob Date:	6/29/2012	**Completion Date:**	6/29/2012
CERCLIS ID:		**RCRIS ID:**	
ERNS No.:		**State Notification:**	NYSDEC

FPN#: E12203 **Reimbursable Account #:**

1.1.1 Incident Category
Abandoned and orphaned oil production wells.

1.1.2 Site Description
Located on the site were at least 2 crude oil production wells and water injection wells that were operated in the 1900s, and had since been abandoned. This type of well is known as an orphan well.

The wells border the Root Creek whichs empties into the Little Genessee Creek, a tributary of the Allegany River, which is a navigable waterway of the United States.

The wells were noticed during a response by the the New York State Department of Environmental Conservation (NYSDEC) to a leaking well on an adjoining oil lease. The wells were abandoned, unplugged, and in a state of advanced deterioration. These wells also pose a high probability of leakage to the environment due to continuing degradation of the equipment.

1.1.2.1 Location
The leaking wells are located along Homestead Road in the Town of Bolivar, Allegany County, New York.
Tax Parcel Number 261.-1-52

1.1.2.2 Description of Threat
The abandoned wells have not been maintained since before 1993 and are gradually deteriorating to the point where crude oil is leaking from broken well casings. The crude oil is being released either directly into the creek or onto land where it is transported into the creek via rainfall runoff and/or gravity flow overland into ditches and culverts leading to the creek. Once into Root Creek, there is potential for the crude oil to be released into the Allegany River, a navigable waterway of the United States.

The wells range from 20 feet to 100 feet from Root Creek along the north slope of a hill. All drainage in this area moves downhill directly to the creek. The topography of the site lends itself to the migration of released oil to the waterways. The steep sided valley through which the Root Creek flows possesses several un-named tributaries and numerous runoff channels from snow melt and rain all of which, along with gravity, will move oil into the waterway.

1.1.3 Preliminary Removal Assessment/Removal Site Inspection Results
On April 20, 2012 the NYSDEC requested that EPA plug the leaking oil wells observed during a field inspection of the area. On May 22, 2012, EPA's review of deeds and titles showed that these wells were not part of the adjoining oil lease but that a separate chain of ownership existed. EPA opened a separate oil account with the National Pollution Fund Center (NPFC) to address the situation. On May 25, 2012 the NYSDEC referred the site to EPA.

2. Current Activities

2.1 Operations Section

2.1.1 Narrative
This action is being taken to mitigate the release of oil into navigable waters of the United States.

The plugging of these wells is consistent with the Code of Federal Regulations for the USCG:

33 CFR section 154.1020 defines substantial threat of a discharge to mean "any incident or condition involving a facility that may create a risk of discharge of oil. Such incidents include, but are not limited to storage tank or piping failures, above ground or underground leaks, fires, explosions, flooding, spills contained within the facility, or other similar occurrence,

and the EPA:

40 CFR Subpart D section 300.317 National response priorities(b) Stabilizing the situation to preclude the event from worsening is the next priority. Comparable measures should be taken to stabilize a situation involving a facility, pipeline, or other source of pollution. Stabilizing the situation includes securing the source of the spill and/or removing the remaining oil from the container (vessel, tank, or pipeline) to prevent additional oil spillage, to reduce the need for follow-up response action, and to

minimize adverse impact to the environment.

2.1.2 Response Actions to Date
Week of June 11, 2012
EPA provided a Task Order for $40,000 to the ERRS contractor (Kemron) and mobilized them to the site.

Kemron solicited RFP packages to qualified bidders for Well Plugging and on site oil well consultant services.

Kemron awarded subcontracts to Adams Well Service (AWS) and Applied Control Engineering (ACE).

Kemron submitted a Notice Of Intent to the NYSDEC Minerals Division for a permit to plug and abandon Norton Well U-02.

Kemron developed site safety plan for approval.

Week of June 18, 2012
Kemron mobilized ACE and AWS personnel and equipment to the site on June 19, 2012.

Kemron began installing a temporary access road, clearing the wellhead area and installing swamp mats around U-02.

AWS set up the service rig on U-02 and began reaming inside 2 inch tubing, set the plug packer at 700 ft and shot the tubing off at 617 ft.

Week of June 25, 2012
AWS completed well plugging operations on Norton Well U-02.

Kemron graded and revegetated the well site location and access road leading to Norton Well U-02.

Kemron removed and loaded out the swamp mats from the site.

EPA de-mobed all personnel and equipment from the site. This concluded all on site activities associated with this removal action.

2.1.3 Enforcement Activities, Identity of Potentially Responsible Parties (PRPs)
A title and deed search was conducted at the Allegany County Court House. The following entity currently owns the surface rights: Gerald and Cindy Mills of Bolivar, NY

2.1.4 Progress Metrics
1 Well plugged to date

2.2 Planning Section

2.2.1 Anticipated Activities
2.2.1.1 Planned Response Activities
Plugging of all abandoned oil wells on the well field that pose a threat to the navigable waters of the United States.

Removal of all abandoned piping associated with those wells.

Excavation of all contaminated soils associated with those wells and subsequent backfill.

Bioremediation of oil contaminated soil.

Sampling and disposal of oily sludge removed from wells and associated piping.

2.2.1.2 Next Steps
None.

2.2.2 Issues
None

2.3 Logistics Section

N/A

2.4 Finance Section

2.4.1 Narrative

06-11-2012 Task Order for $40,000 to Kemron

Estimated Costs *

	Budgeted	Total To Date	Remaining	% Remaining
Extramural Costs				
ERRS - Cleanup Contractor	$40,000.00	$31,342.00	$8,658.00	21.65%
Intramural Costs				
USEPA - Direct	$5,612.00	$5,612.00	$0.00	0.00%
USEPA - InDirect	$4,388.00	$4,388.00	$0.00	0.00%
Total Site Costs	$50,000.00	$41,342.00	$8,658.00	17.32%

* The above accounting of expenditures is an estimate based on figures known to the OSC at the time this report was written. The OSC does not necessarily receive specific figures on final payments made to any contractor(s). Other financial data which the OSC must rely upon may not be entirely up-to-date. The cost accounting provided in this report does not necessarily represent an exact monetary figure which the government may include in any claim for cost recovery.

2.5 Other Command Staff

2.5.1 Safety Officer

All operations will conform to the following regulations:

Title 29, Part 1910 of the Code of Federal Regulations, Occupational Safety and Health Standards (with special attention to Section 120, Hazardous Waste Operations and Emergency Response)

Title 29, Part 1926 of the Code of Federal Regulations, Safety and Health Regulations for Construction

National Institute for Occupational Safety and Health / OSHA / USCG / EPA Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities

2.5.2 Liaison Officer

N/A

2.5.3 Information Officer

EPA will keep the regional PIO informed of all site activities. A fact sheet will be developed for submission to local officials.

3. Participating Entities

3.1 Unified Command

N/A

3.2 Cooperating Agencies

New York State Department of Environmental Conservation (NYSDEC)

4. Personnel On Site

4.1 Federal
EPA (1)

4.2 State
NYSDEC (varies by visit)

4.3 Private
Applied Control Engineering (1)
Kemron (4)

5. Definition of Terms

N/A

6. Additional sources of information

6.1 Internet location of additional information/report
New York State Department of Environmental Conservation - Oil & Gas
http://www.dec.ny.gov/energy/205.html

US Coast Guard - National Pollution Fund Center
http://www.uscg.mil/npfc/default.asp

US Environmental Protection Agency - Region 2
http://www.epa.gov/Region2/

6.2 Reporting Schedule
Monthly distribution of polreps or as needed.

7. Situational Reference Materials

EPA ERT Kentucky Oil Wells Plugging video

Fw: NYSDEC SGEIS on HVHF [reformatted e-mail]
Kathleen Malone
to:
Judith Enck
12/30/2011 04:08 PM
Hide Details
From: Kathleen Malone/R2/USEPA/US

To: Judith Enck/R2/USEPA/US@EPA

History: This message has been replied to.
Message from NYSDEC. I noticed that you were not cc'd.

Kathleen Malone-Bogusky
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We do not inherit the earth from our ancestors we borrow it from our children

-----Forwarded by Kathleen Malone/R2/USEPA/US on 12/30/2011 04:08PM -----

To: Kathleen Malone/R2/USEPA/US@EPA
From: "Eugene Leff" <ejleff@gw.dec.state.ny.us>
Date: 12/29/2011 06:17PM
Cc: George Pavlou/R2/USEPA/US@EPA, "James Tierney" <jmtierne@gw.dec.state.ny.us>, "Steven Russo" <scrusso@gw.dec.state.ny.us>
Subject: NYSDEC SGEIS on HVHF [reformatted e-mail]

Kathleen-
We would like to respond below to a number of questions raised by EPA Region 2 during our discussions in November. If you have any additional questions, please send a reply or call me. We suggest a meeting in the City next week, if you agree that might be useful.

Sole Source Aquifers-
DEC considers primary and principal aquifers to be better designations for high-volume hydraulic fracturing (HVHF) regulation than sole source aquifers. For example, the Clinton Street Ball Park Sole Source Aquifer is defined simply by the boundaries of Tioga and Broome Counties. Although these two counties include NYS-designated Primary Aquifers, a majority of that region does not in DEC's opinion include important or productive aquifers. As you know, the rdSGEIS proposes to exclude surface HVHF drilling above primary aquifers and would require site-specific review of applications to drill on the surface above principal aquifers.

Private Well Water Data-
We are considering make private drinking water well data publicly available and are discussing with the State Department of Health how to do so consistent with privacy concerns. In order to release private well water data to the general public, the Department of Health requires resident identifiers to be redacted.

Air Monitoring-
You asked who would conduct air monitoring under the SGEIS,industry or the Department. We agree that there are distinct advantages to the latter but have not finalized arrangements on this.

Greenhouse Gases-
With respect to venting, during the flowback phase venting from each well pad will be limited to a maximum of 5 MMscf during any consecutive 12-month period (see rdSGEIS section 7.5.3.1, at 7-108).
Venting is also limited by a number of other measures:
- Required use of water-tight tanks for flowback, rather than ponds (see rdSGEIS at 5-100).
- Requirement that gas vented from the flowback tanks be flared whenever possible (i.e., unless there are inadequate VOCs to be flared) and equipping tanks with automatic ignition device (see rdSGEIS at 7-117).
- Requirement for reduced emissions completions whenever a sales line is available (see rdSGEIS at 7-117).
Also, the mitigation measures for GHG proposed in the SGEIS include both voluntary and mandatory measures. Among the latter is use of EPA's Natural Gas STAR Best Management Practices for specified equipment (see rdSGEIS section 7.6.8, at 7-116; see also section 6.5.1.3, at 6-103).

Wastewater Disposal-
With respect to the question raised about the Buffalo Sewer Authority, we have determined that it did not accept any HVHF wastewater. It did accept wastewater from US Energy via a pretreatment discharge from vertical well drilling activities conducted in New York State. According to BSA, it accepted this wastewater between January 2007 and January 2011.
The Department is not aware of any facilities in New York State that have accepted HVHF wastewater from PA. We are aware of a few POTWs (Auburn, Canandaigua, Cayuga Heights, and Wellsville in addition to Buffalo Sewer Authority) that have received gas drilling wastewater from vertical wells. We understand that they have all ceased accepting this wastewater.

Pipelines-
As we previously indicated, the SGEIS will be expanded to consider potential impacts of pipelines in a generic manner. A full site-specific environmental review under New York State law is conducted

at the time applications for approval of particular pipelines are submitted. Our law also makes clear that it is not necessary to fully review proposed pipelines as part of a generic EIS relating to drilling.

Eugene J. Leff
Deputy Commissioner
New York State Department of
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